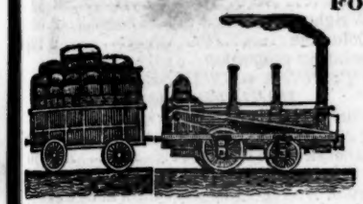
Cuyahoga Steam Furnace

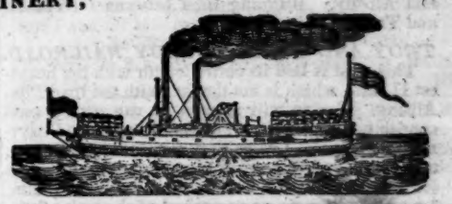
AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY, AND MINES.



ESTABLISHED 1831.



PUBLISHED WEEKLY, AT No. 23 CHAMBERS STREET, NEW YORK, AT FIVE DOLLARS PER ANNUM.

SECOND QUARTO SERIES, VOL. II., No. 47.] SATURDAY, NOVEMBER 21, 1846. [WHOLE No. 544, VOL. XIX.

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 6, 1846, the Passenger Trains will run as follows:

For New York—Night Line, via Stonington. Leaves Boston every day, but Sunday, at 5 p.m.

Accommodation Trains, leave Boston at 7½ a.m. and 4 p.m., and Providence at 8 a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m. 12½ m., 3½ p.m., and 6½ p.m. Leave Dedham at 7 a.m. and 9½ a.m. and 2½ and 5½ p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7·20 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

31 1y W. RAYMOND LEE, *Sup't.*

BRANCH RAILROAD and STAGES CONnecting with the Boston and Providence Railroad.

Stages connect with the Accommodation trains at the Foxboro' Station, to and from Woonsocket. At the Seekonk Station, to and from Lonsdale, R. I. via Pawtucket. At the Sharon Station, to and from Walpole, Mass. And at Dedham Village Station, to and from Medford, via Medway, Mass. At Providence, to and from Bristol, via Warren, R. I.—Taunton, New Bedford and Fall River cars run in connection with the accommodation trains.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement, commencing Monday, April 6, 1846.

Accommodation Trains, daily, except Sunday. Leave Norwich, at 6 a.m., and 4½ p.m. Leave Worcester, at 10 a.m., and 4½ p.m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 1½ p.m. train from Boston.

New York Train via Long Island Railroad: Leave Allyn's Point for Boston, about 1 p.m., daily, except Sunday.

Leave Worcester for New York, about 10 a.m., stopping at Webster, Danielsonville, and Norwich.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 4½ p.m., daily, except Sunday, stopping at Webster, Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.*

32 1y J W. STOWELL, Sup't.

BOSTON AND MAINE RAILROAD. Upper Route, Boston to Portland via, Reading, Andover, Haverhill, Exeter, Dover, Great Falls, South & North Berwick, Wells, Kennebunk and Saco.

Winter Arrangement, 1846–7.

On and after October 5th, 1846, Passenger Trains will leave daily, (Sundays excepted,) as follows:

Boston for Portland at 7½ a.m. and 2½ p.m.

Boston for Great Falls at 7½ a.m., 2½ and 3·25 p.m.

Boston for Haverhill at 7½ and 11½ a.m., 2½, 3·25 and 5 p.m.

Boston for Reading at 7½, and 11½ a.m., 2½, 3·25 5 and 6½ p.m.

Portland for Boston at 7½ a.m., and 3 p.m.

Great Falls for Boston at 6½ and 9½ a.m., and 4½ p.m.

Haverhill for Boston at 7½, 8½, and 11 a.m. and 3 and 6½ p.m.

Reading for Boston at 7, 8½ and 9½ a.m., 12 m., 1½, 4 and 7½ p.m.

The Depot in Boston is on Haymarket Square.

Passengers are not allowed to carry Baggage above $50 in value, and that *personal* Baggage, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every $500 additional value.

1y31 CHAS. MINOT, *Super't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.

On and after Friday, May 1st, 1846, the cars will run as follows:

Leave City Hall for Yorkville, Harlem and Morrianna, at 7, 8, 9, 10 and 11 a. m., and at 1, 2, 3 30, 4 30, 5, 6, and 6 30 p. m.

Leave City Hall for Fordham and Williams' Bridge, at 7, 10 and 11 a. m., and at 2, 3 30, 5, and 6 30 p. m.

Leave City Hall for Hunt's Bridge, Bronx, Tuckahoe, Hart's Corners and White Plains, at 7 and 10 a. m., and at 2 and 5 p. m.

Leave Harlem and Yorkville, at 7 10, 8 10, 9, 10 11 10 a. m., and at 12 40, 2, 3 10, 5 10, 5 30, 6 10' and 7 p.m.

Leave Williams' Bridge and Fordham, at 6 45, 7 45, and 10 45 a. m., and at 12 15, 2 45, 4 45, and 5 45 p. m.

Leave White Plains, at 7 and 10 a. m., and at 2 and 5 p. m.

The freight train will leave the City Hall at 1 o'clock, p. m., and leave White Plains at 1 o'clock in the morning.

On Sundays, the White Plains train will leave the ty Hall at 7 a. m. and 5 30 p. m.; will leave Cihite Plains at 7 a. m. and 6 p. m.

On Sundays, the Harlem and Williams Bridge trains wil be regulated according to the state of the weather. 1y18

SUMMER ARRANGEMENT.—NEW YORK AND ERIE RAILROAD LINE, from April 1st until further notice, will run daily (Sundays excepted) between the city of New York and Middletown, Goshen, and intermediate places, as follows:

FOR PASSENGERS—

Leave New York at 7 A.M. and 4 P.M.
" Middletown at 6½ A.M. and 5½ P.M.

FARE REDUCED to $1 25 to Middletown—way in proportion. Breakfast, supper and berths can be had on the steamboat.

FOR FREIGHT—

Leave New York at 5 P. M.
" Middletown at 12 M.

The names of the consignee and of the station where to be left, must be distinctly marked upon each article shipped. Freight not received after 5 P. M. in New York.

Apply to J. F. Clarkson, agent, at office corner of Duane and West sts. H. C. SEYMOUR, Sup't.

March 25th, 1846.

Stages run daily from Middletown, on the arrival of the afternoon train, to Milford, Carbondale, Honesdale, Montrose, Towanda, Owego, and West; also to Monticello, Windsor, Binghamton, Ithaca, etc., etc. Agent on board. 13 tf

BOSTON AND ALBANY.—WESTERN RAILROAD.—Fare Reduced.

1846..Spring Arrangement..1846

Commencing April 1st.

Passenger trains leave daily, Sundays excepted—

Boston	7½ p. m.	and 4 p. m.	for Albany.
Albany	6½ "	and 2½ "	for Boston.
Springfield	7 "	and 1 "	for Albany.
Springfield	7 "	and 1½ "	for Boston.

Boston, Albany and Troy:

Leave Boston at 7½ a. m., arrive at Springfield at 12 m., dine, leave at 1 p. m., and reach Albany at 6½ p. m.

Leave Boston at 4 p. m., arrive at Springfield at 8 p. m., lodge, leave next morning at 7, and arrive at Albany at 12½ m.

Leave Albany at 6½ a. m., arrive at Springfield at ½ m., dine, leave at 1½ p. m., and arrive at Boston 6½ p. m.

Leave Albany at 2½ p. m., arrive at Springfield at 8½ p. m., lodge, leave next morning at 7, and arrive at Boston at 12 m.

The trains of the Troy and Greenbush railroad connect with all the above trains at Greenbush.

Fare from Boston to Albany, $5; fare from Springfield to Boston or Albany, $2 75.

Merchandize trains run daily (Sundays excepted) between Boston, Albany, Troy, Hudson, Northampton, Hartford, etc.

For further information apply to C. A. Read, agent, 27 State street, Boston, or to S. Witt, agent, Albany.

JAMES BARNES,
Superintent and Engineer.

Western Railroad Office, Springfield, April 1, 1846.

TROY RAILROADS.—IMPORTANT NOtice.—Troy and Greenbush Railroad, forming a continuous track from Boston to Buffalo and Saratoga Springs.

This road is new, and laid with the heaviest iron H rail. Trains will always be run on this road connecting at Greenbush each way with the trains to and from *Boston* and intermediate places, leaving Greenbush daily at 1½ p.m. and 6 p.m., or on arrival of the trains from Boston; leave Troy at 7½ a. m. and 4½ p.m., or to connect with trains to *Boston*

Trains also run hourly on this road between Troy and Albany. Running time between Greenbush and Troy, 15 minutes.

TROY AND SCHENECTADY RAILROAD.

This road is laid its entire length with the heaviest H rail- which is not the fact with the road from Albany. Trains will always be run on this road connecting each way, to and from Buffalo and intermediate places. Leave Troy for Buffalo at 7½ a.m. and 1 p.m. and 6½ p.m., or to connect with the trains for the west; leave Schenectady at 2½ a.m., 8½ a.m., 1 p.m. and 3½ p.m., or on arrival of the trains from Buffalo and intermediate places.

TROY AND SARATOGA RAILROAD.

THE ONLY DIRECT ROUTE.

No change of passenger, baggage or other cars on this route. Cars leave Troy for Ballston, Saratoga Springs, Lake George and White Hall at 7½ a.m., (arriving one hour in advance of the train from Albany,) and at 3½ p.m. Returning, leave Saratoga at 9 a.m. and 3½ p.m., (reaching Troy in time for the evening boats to New York.) Cars also leave Troy for the Burrough at 3½ p.m. and 7 p.m., connecting with packet boats for the north. This takes passengers from New York and Boston to Montreal in 44 hours.

N.B. Travellers will find the routes through Troy most convenient and economical, and as expeditious as any other. The steamboats to and from New York land within a few steps of the railroad office, and passengers are taken up and landed by the different railroad lines at the doors of principal hotels, thus saving all necessity for, and annoyance from, hack drivers, cabmen, runners, etc.

Aug. 3, 1846. 1y 32

THE BEST RAILROAD ROUTE TO THE Lake and Buffalo, from Cincinnati.

Take Cars to Xenia, 65 miles; take Stage to Mansfield, 88 miles; thence by Cars to Sandusky, 56 miles to the Lake; thence Steamboat to Buffalo, 230 miles.

Fare from Cincinnati to Sandusky	$8 00
" " Sandusky to Buffalo, Cabin	6 00
" " " " " Steerage	4 50

Fare by this route, although the cheapest across the state, will be reduced in a short time, railroad lengthened, and speed increased.

Leave Cincinnati in the morning, arrive at Columbus at night.

Leave Columbus in the morning, arrive at Sandusky same day.

Leave Sandusky, by Boat, in the morning, arrive at Buffalo next morning in time for the Cars north and east for Niagara Falls, Canada, Saratoga Springs, Troy, Albany, Boston, New York, Washington, or Philadelphia.

Passengers should not omit to pay their fare through from Cincinnati to Sandusky, or from Columbus to Sandusky via Mansfield; as this route is the only one that secures 56 miles [this road is run over in 2h. 50m.,] most railroad which is new, and is the shortest, cheapest and most expeditious across the state.

Fares on the New York railroads are about to be reduced.

B. HIGGINS, *Sup't, etc.*
M. & S. C. R. R. Co.

Sandusky, Ohio.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO., *Agents.*

Corner of Cedar and Greenwich Sts. 48 1y

NEW RAILROAD ROUTE FROM BUFfalo to Cincinnati.

Passengers destined for Columbus and Cincinnati,

O., Louisville, Ky., St. Louis, Mo., Memphis, Tenn., Vicksburg, Natches, New Orleans, and all intermediate ports, will find a new, and the most expeditious and comfortable Route, by taking Steamboats at Buffalo, landing at Sandusky City, Ohio, distance.....230 miles.

From thence by Cars, over the Mansfield Railroad which is new and just opened [laid with heavy Iron,] to Mansfield, distance	56	"
Thence by Stage via Columbus to Xenia over gravel and Macadamized Road, (the best in the state,) in new coaches, distance	88	"
Thence, over the Little Miami Railroad, from Xenia to Cincinnati, distance	65	"

TIME.

From Buffalo to Sandusky	24 hours.
Leave Sandusky 5 a.m. to Columbus	14 "
From Columbus to Cincinnati	15 "

Or say 30 hours from Sandusky to Cincinnati over this route, including delays.

FARE.

From Buffalo to Sandusky, Cabin	$6 00
" " " " Steerage	3 00
" Sandusky to Columbus	4 50
" " *through* to Cincinnati	8 00

Passengers should not omit to pay their fare *through* from Sandusky City to Cincinnati and take receipts availing themselves of the benefit of a contract existing between the said Railroad and Stage Co's, securing 121 miles travel by good Railroad and 88 miles by Stage, in crossing from Lake Erie to the Ohio river, in the space of 30 hours.

Passengers destined for St. Louis, or any point below on the Mississippi, will save by taking this route, from 4 to 6 days time and travel, and nearly half the expense, over the Chicago and Peoria route to the above places.

Fare by this route, although the cheapest, will in a short time be reduced, Railroad lengthened, and speed increased.

B. HIGGINS, *Sup't, etc.*
M. & S. C. R. R. Co.

Sandusky City, Ohio.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and

Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER, 17 Burling Slip.

1y10 New York.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Balti-

more and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above.

35ly

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from

Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

1y25 JOHN KING, Jr, *Agent.*

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and

Freight. Rates of Passage, $8 00. Freight—

On weight goods generally	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil)	$1 50 per barrel.
On brls. dry (except lime)	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons	$5 00 per hhd.
On molasses and oil	$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,

.y40 Gen'l. Sup't. Transportation.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 2v19 1y

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

LITTLE MIAMI RAILROAD.—1846.— Summer Arrangement.

Two passenger trains daily.

☞ On and after Tuesday, May 5th, until further notice, two passenger trains will be run—leaving Cincinnati daily (Sundays excepted) at 9 a. m. and 1½ p. m. Returning, will leave Xenia at 5 o'clock 50 min. a. m., and 2 o'clock 40 min. p. m.

On Sundays, but one train will be run—leaving Cincinnati at 9, and Xenia at 5 50 min. a. m.

Both trains connect with Neil, Moore & Co.'s daily line of stages to Columbus, Zanesville, Wheeling, Cleveland, Sandusky City and Springfield.

Tickets may be procured at the depot on East Front street.

The company will not be responsible for baggage beyond fifty dollars in value, unless the same is returned to the conductor or agent, and freight paid at the rate of a passage for every $500 in value above that amount.

W. H. CLEMENT,
19 Superintendent.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO OOTHCALOGA, 80 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 388 miles in length, from Charleston to Oothcaloga on the Oostenaula River, in Cass Co., Georgia.

RATES OF FREIGHT.

		Between Augusta and Oothcaloga. 250 miles.	Between Charleston and Oothcaloga. 386 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot	$0 16	$0 25
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	0 90	1 40
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Bar and Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 55	0 75
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Feathers, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc	0 37½	0 62½
	Cotton, per 100 lbs.	0 45	0 65
	Molasses, per hogshead.	8 50	13 50
	" " barrel.	2 00	3 25
	Salt per bushel	0 17	
	Salt per Liverpool sack.		95
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows	0 75	1 37

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight may be paid at Augusta, Atlanta, or Oothcaloga.

J. EDGAR THOMSON,
Ch. Eng. and Gen. Agent.
Augusta, Sept. 2d, 1846. •44 1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N E. cor. 12th and Market sts., Philad., Pa.

RAILROAD IRON.—1000 TONS HEAVY H Railroad Iron, 60 lbs. per lineal yard, expected to arrive within the next 30 days. Apply to

DAVIS, BROOKS & CO.,
October 9. [1042] 68 Broad St.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above PIPES, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly *indestructible*. The prices are less than those of iron or lead. We also manufacture Basons and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 112 Fulton street, New York.

28tf J. BALL & CO.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

CLEVELAND, COLUMBUS AND CINCINNATI Railroad. In pursuance of a resolution adopted by the Board of Directors, on the 21st October, notice is hereby given, that proposals will be received up to the 1st day of December next, for the Grading, Timbering, Bridges and Culverts on forty miles of the road, commencing at Cleveland. Profiles, Specifications, Terms of Payment, and all other information pertaining to the matter, to be furnished on application at the office of the Company, Merwin Block, Cleveland.

JOHN W. ALLEN, President.
A. G. LAWRENCE, Secretary.
CYRUS WILLIAMS, Engineer.
Cleveland, October 23, 1846. 45•1m

GEORGE VAIL & CO., SPEEDWELL IRON Works, Morristown, Morris Co., N. J.—Manufacturers of Railroad Machinery; Wrought Iron Tires, made from the best iron, either hammered or rolled, from 1¼ in. to 2½ in thick.—bored and turned outside if required. Railroad Companies wishing to order, will please give the exact inside diameter, or circumference, to which they wish the Tires made, and they may rely upon being served according to order, and also punctually, as a large quantity of the straight bar is kept constantly on hand.—Crank Axles, made from the best refined iron; Straight Axles, for Outside Connection Engines; Wro't. Iron Engine and Truck Frames; Railroad Jacks Screws; Railroad Pumping and Sawing Machines, to be driven by the Locomotive; Stationary Steam Engines; Wro't. Iron work for Steamboats, and Shafting of any size; Grist Mill, Saw Mill and Paper Mill Machinery; Mill Gearing and Mill Wright work of all kinds; Steam Saw Mills of simple and economical construction, and very effective Iron and Brass Castings of all descriptions. 1y1

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 fe. with lathes, work benches,

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side o Parker st., containiug 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

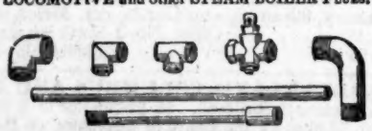
For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia. ja45

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

RAILROAD IRON.—THE NEW JERSEY Iron Company, Boonton, N. J., are now preparing to make Railroad Bars, and are ready to take orders or make contracts for Rails, deliverable after the first of December next. Apply to

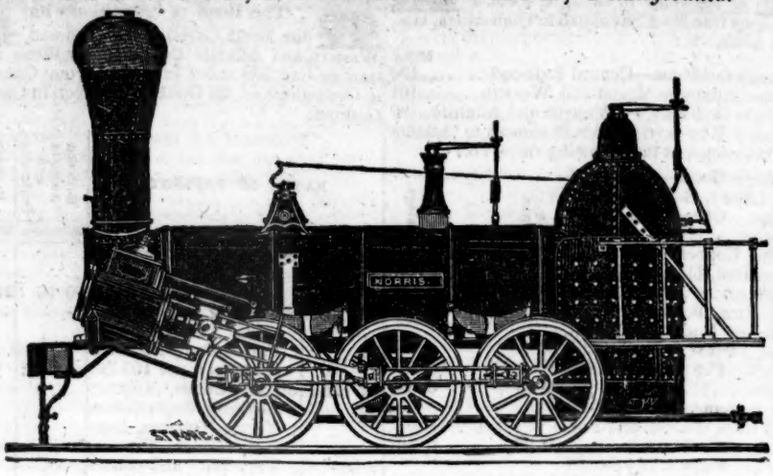
FULLER & BROWN, Agent,

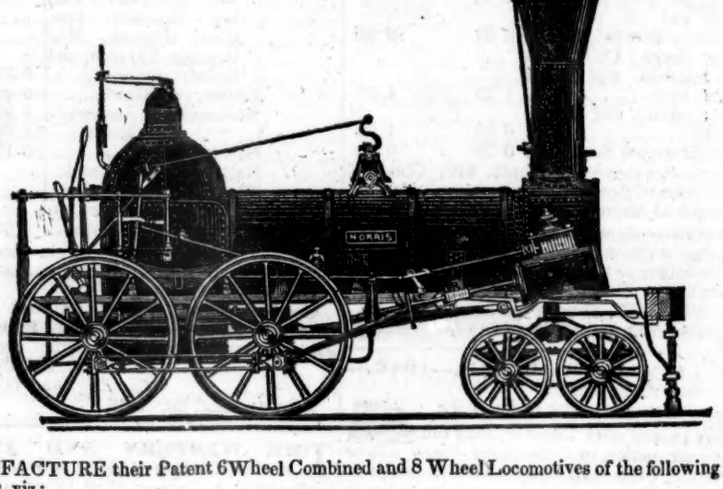
No. 139 Greenwich, corner of Cedar street.

September 18, 1846. 10:39

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.





MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15	inches	Diameter of	Cylinder,	× 20	inches	Stroke.
"	2,	14	"	"	"	× 24	"	"
"	3,	14½	"	"	"	× 20	"	"
"	4,	12½	"	"	"	× 20	"	"
"	5,	11½	"	"	"	× 20	"	"
"	6,	10½	"	"	"	× 18	"	"

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON

Mar. 20tf 4 South Front St., Philadelphia.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
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N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
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25,000 to 30,000 made weekly. 35 1y

South Carolina Railroad Report.

We have received, through the politeness of a friend, a copy of the report of a committee of seven on changing the location of their depot and work shop; and also of their engineer, on the change of location at the western termination, and of the substitution of *locomotive* grades, instead of the present incline planes.

As to the propriety of changing the location of the depot, and work shops, and of securing ample space for the same on the water, at the most favorable point, we cannot understand how there can be a dissenting voice. There should always be ample grounds secured at the most favorable point, for the accommodation of the *business* to be done, by every railroad company. The great fault, or *omission*, has been, in almost every instance, in not obtaining enough ground to *commence* with, consequently in a little time most companies have had to purchase at extravagant prices, or to suffer great inconvenience in the want of space to arrange their shops, and transact their business; and from what we learn from this report, we are led to infer that, in no instance, has there been a greater want of foresight in providing this very important appendage to a well managed railroad, than at Charleston.

We give the report entire, as embodying sound reasons for making the change:

Report of the Committee of seven.

To the stockholders of the South Carolina railroad company.

GENTLEMEN:—The committee of seven, appointed in February, 1845, and continued in February, 1846, by order of the company, to whom was referred the resolutions of the legislature of December, 1844, respecting the termini of the railroad at Charleston and Hamburg, and the inclined plane at Aiken, together with the proceedings of the general assembly of December, 1845, respecting the terminus and depot at Charleston, beg leave to report,

That they have fully considered the same, and appended thereto the results they have attained, in the shape of resolutions, the reason for which, they now proceed to set forth:

1. The depot at Mary street ought to be discontinued. This is the place of which all the produce of the country brought down, is delivered, and all merchandize and so forth, destined for the interior, is received. The area occupied, is 2¼ acres, of which 2⅓ belongs to the company, and the remainder is leased land; which lease will expire in a few years, and land cannot now be bought.

The objections to this point, are, that the space is entirely too small for the present business of the company—and looking to the future increase of the business of the road with the western country, by means of the Georgia railroad, will be wholly incompetent for the business expected to be done, and which it cannot be doubted, will be done. In the season of 1844, 1845, the company was compelled to take possession of some vacant lots near by, for the purpose of storing cotton in the open air, until the consignees choose to send for, and remove it. The point is too far from the water; thereby subjecting produce and merchandize to heavy transportation charges by drays, between the water and the depot, unnecessary and unpolitic—injurious to the planter, hurtful to the commerce of the city, and in violation of the expressed wishes of the legislature of the state for two years in succession—that body being the representatives of the people, who have invested a very large sum of money in this road.

Further, the remoteness from the water, cuts off the company from the reception and transportation of heavy articles, such as salt, groceries, iron. gypsum, coal, lime, lumber, etc., because the heavy charges for transportation of such articles from the water to the depot, amounts to a prohibition to their getting to the road for conveyance; when on other roads, these articles pay a fair profit for transportation, where the depot is in close proximity to the water.

This depot is objectionable also, because it is so removed from the work shops on Line street, near half a mile, thereby subjecting the company to the expense of keeping more officers and servants, than would be necessary, if the two departments were combined, and thereby save the company at least $10,000 per annum. More land cannot be purchased around this depot at any reasonable price.

The committee unanimously concur in this resolution, however they may differ as to the other recommendations.

2d. That the Citadel square would not answer the purposes of the company as a permanent depot.

Every objection urged against the Mary street depot, applies to this point, with some additional reasons. It would remove the depot of receipt and delivery still further from the work shops, multiply the officers and servants of the company necessarily, and thereby increase expense. The area is but four acres, wholly insufficient to locate the depot and work shops, united, upon, even now, and must be still more so, as the great trade in cotton, hemp, bagging, rope, and all agricultural productions increase upon us, as they must necessarily do, from the opening of the communication by the Georgia railroads with the western country. The space is wholly insufficient. Besides, to occupy this site, the citadel will be divided from it by an alley of thirty feet only, which must destroy the uses of the citadel in a great measure, destroy the parade ground of the school, weaken the defences against an approach to the citadel by an enemy—and almost compel the legislature to discontinue an institution, which was built at great cost, and upon the earnest application of the city of Charleston, to create a point where the citizens could meet, procure arms, and defend themselves, against a foreign or a *domestic foe*. And all this evil is to be done without one counterbalancing benefit to this company, and not reducing the charges upon agricultural productions but in a very small degree less than from the former depot. This square is surrounded on the east, south and west, by three much improved, frequented and travelled streets, to wit: Meeting, Boundary and King streets, which would have to be crossed, to obtain more room, by tracks and cars, and be thus subject to the evil already stated, of dividing the buildings. But further, to obtain this *right of way* from the present depot to the citadel square, will incur the cost of—

For the square,	$25,000
The right of way through Mr. Oppenheim's property, he claims that the company shall take the whole at	25,000
New tracks to the square,	3,000
	$53,000

deducting therefrom whatever portion of Mr. Oppenheim's property, not used for a track, could be sold for, which cannot be estimated by the committee.

There was but one dissenting vote to this resolution in the committee.

If the question should be submitted to a jury to assess the amount to be paid the owner for the right of way through his lands, and thereby necessarily pulling down some of his houses, it is believed, from the past experience of this company in such questions, that very nearly the market value of the whole property would be awarded to Mr. Oppenheim for the right of way.

The other points available for a depot, are upon the water. These the committee examined, by inspection of the places, with enlightened citizens of Charleston, to aid them, and with the reports of the president and engineer before them, going into details. These points are Smith's wharves, and the Laurens marsh.

3d. Smith's wharves contain an area of 7½ acres, and is out of the city, and would form the point for the work shops, as shown in the map and plans, submitted to this committee by the president. Three acres are now filled up and fit for use, and improved with buildings and two more enclosed by palmetto logs, which space can be filled up at a very inconsiderable cost. The marsh land on Boundary street would have to be connected with these wharves, for the depot.—This contains 5¾ acres, about half to be filled up, which could readily be done by the company, after the track is laid down to it, at a very small expense. These wharves have the advantage of having deep water, at which any vessel which can come over the bar, may lay, which must and will prove very profitable to the company, by enabling them to receive merchandize from the ship, to be transferred to the interior, which other roads now do with so much profit. Looking to the interests of the company solely, and not to the pursuits and investments and individuals, the majority of the committee are clearly of the opinion, that this site would be the best and most profitable to the company—and therefore, they have concurred in the third resolution. These wharves and the marsh for the depot can be purchased for $65,000—and from the estimates handed to us, and offers made, the marshes can be filled up for a sum, scarcely exceeding the amount, which the company's lands and houses at Mary street depot, and the work shops, would sell for. The improved portion of this property now rents for $4,000, and could be so rented, until necessity forced the company to use the buildings, or pull them down. The right of way to come to this point, would

also amount to less, than to go to the next place below, suggested for a permanent depot.

It is objected against this place, that being out of the city, the company would thereby build up a rival town, having the advantage of the capital of the citizens of Charleston invested in the railroad, to injure the business and trade of the city. Not admitting the force of this objection, in the degree claimed for it, by those who alledge it, the committee have sought another place, to wit:

4th. The "Laurens marsh," which is within the city, and contains an area of ten acres, a large portion of which is high and not difficult to fill, and can be purchased for $24,000. A palmetto barrier must be made on the eastern line, at a cost of $5,000. As is stated respecting the Smith wharves, so here, the ground and houses of the present depot and work shops, when sold, will nearly defray the expenses of filling up, and so forth. The advantages of this point, are, having the depot, work shops, and warehouses in near connection, having a front on East Bay street, which is paved the whole way, having a wharf to which vessels drawing eight feet water can approach, with the probability of deepening by dredging, to which, drays can come to transport cotton, etc., being near the shipping, and the business side of the city, and not liable to the objection of taking away the capital of the city to a new town. It is believed, that having the use of East Bay street paved, the cost of transportation of agricultural products and merchandize, would be reduced so low, that no one could be found to complain. This place is approved of by six members to one of the committee, over all other places.

The approach to Smith's wharves, or Laurens marsh, would be by breaking off about one and a half mile north of the present work shops, and passing over the marsh around Mr. Tucker's house, and then in a direct line to Smith's wharves. To go on to the Laurens marsh, it would be necessary to pass Boundary street, and through Concord and Marsh streets. The maps will exhibit fully the different lines. The marsh route will be the cheapest, costing but $22,000, by the offer of Mr. Walker to grade, and 5 or $6,000 for the right of way through the Blake lands. But it is the most hazardous, being exposed to the river and September storms and gales. The majority of the committee concur, that it would be better to adopt the line through Hamstead, which will cost for right of way, etc. about $16,000 more than the marsh line, but we should there have property yielding good rent to tenants, and which could be sold off, save the tracks, for the full difference in the expense.

The cost of work shops, etc. are not here stated, because that is an expense which must be incurred, even though no removal is made from Mary street depot, very shortly, and will be the same at any point, save being increased about $5,000, for piling at Laurens marsh.

The company have the right to come into the city, and establish a depot any where, so long as they use horse power alone, and can only use steam power within the city, by permission of the city council. If the Laurens marsh are selected as the place of depot, their consent must be asked, and if the council should refuse their assent thereto, the committee would recommend Smith's wharves to be elected. But they cannot suppose that council would refuse such a request. The route through Hampstead, passes over six streets, while the proposed line to the citadel would pass over ten streets, in a more thickly settled and improved portion of the city and neck than Hampstead. No building has been fired by the locomotives since the use of the spark arresters—and it is believed, that no such accident can again occur.

The policy of the depot on the water.

A depot on the water gives the power to receive merchandize direct from the ships, along side the wharf of the company into the cars, without cost of transportation from the ship to the depot, and of course without paying the present charges for receiving and forwarding. The committee suppose, that in this latitude, it is not necessary to advance reasons why commerce should be as free and unshackled as may be possible, and with as few charges as practicable. But it is objected, that you thereby destroy the income of those engaged in receiving and forwarding goods to the interior. This may be granted, in a degree, as being true—but it will be remembered that the Savannah railroad runs to the water, and destroys such charges, and will necessarily cut our road off from the carrying trade for the interior and the west, if our road should continue to incur such charges on merchandize by not having a depot on the water.—The question then is reduced to this: Shall this company, to enable a small number of receiving and forwarding agents in the city, to make 10 or $15,000 by such charges per annum, destroy her income by transporting such merchandize on our road to double or treble that amount? The committee cannot doubt that the company must look to their own interest first.

It is objected against going to the water, that we shall be using city capital to break down the business and interests of the city: that Charleston capital built the road to Hamburg, and now it is to be turned to destroy her. If such should prove to be the result, the charge may be admitted to be true, but the stockholders of the present company may well say that we paid you for the privilege of doing so, by purchasing out your rights in the Hamburg road at twenty-five per cent. above par, and nearly fifty per cent. above the then market value, and the company ought to be permitted to enjoy a right purchased at so exorbitant a price.

But further, the depot on the water will save the company at least $600 annually for dray tax in transporting the materials for their own use, which is the interest upon a capital of nearly $9,000. Further advantages of such a position have herinbefore been indicated. In truth, no one can contemplate the trade and travel which must and will seek this route if we give proper facilities therefor, after the connection with the west and the North Carolina roads by the way of Camden, (whose branch is now in rapid progress) but must be blind to the interest of the whole city of Charleston not to perceive that it is to her advantage now to seize the opportunity so to accommodate, by facilities, this trade and travel, as to bring the whole of it into her borders. It is now or never.

It is supposed that a depot at Smith's wharves or Laurens marsh will depreciate the value of the wharves in the lower part of the city, and the heavy investments of capital in them. This is not believed to be correct. That it may appreciate some of the property in the neighborhood of the depot in some measure may be true—but the reverse does not follow. The price of transportation from the Laurens marsh to any wharf in the city, either by steam power, or horse power, or by drays, will be so low, (and yet remunerative to the dray owner by the increased quantity of the load, shorter distance and paved way) that no prudent man would change the person he is doing business with, as a factor or otherwise, in the lower part of the city, for such a trifle, or the wharf to which he sends his produce. It is not proposed by the committee that the company should become factors or warehousemen, or draymen, or wharfingers, or weighers. All produce will be delivered at the depot upon arrival, to be carried off to the wharf to which it belongs. Their sole duty would be to deliver it on arrival.—And it would seem that this could not interfere with the rights of any man.

The next question to be considered is, as to the delivery of freight from the depot on the water to the wharves. The committee think that a train of freight cars could not be run down between the docks and the houses adjoining, without an outlay of so large a sum of money to purchase the right of way, as to preclude the possibility of such an undertaking at present. The only other way is by East Bay street.

In pursuance of the wishes of the general assembly, as expressed by the joint resolutions of December, 1845, the committee submitted the same to the city council, whose answer is hereto annexed. The council sets up a contract, made with a committee of the directors of this company, binding the company to take the citadel square as a depot, and never to discontinue the use thereof without the permission of the council; and further, *not to hold any wharf or depot on the water.* This supposed contract will be presently remarked on. The council adds, that they are willing that a track shall be laid down from citadel, along Boundary street, and then along the line of the wharves. It is supposed that steam power is intended, and that as the line between the docks and houses is wholly impracticable at present, as before stated, that council will authorize the track to be laid down in East Bay street, and thereon either to use steam or horse power. The committee regard this as a minor matter, and would recommend the company mainly to consult the wishes of the council on the subject. Draying will answer all practical ends of the company from Laurens marshes to the wharves.

In regard to the supposed contract, the committee are constrained to say that it is not binding on the company, from having never received the signature of the president and secretary as required by the by-laws, and if it had, that as agents the board of directors had no power to make such a contract, binding the company to keep their depot forever at the square, and to hold no wharf or depot on the water. It must require a higher power than the directors to abrogate a chartered right of this company, as is done by bargaining away the right to have a wharf or depot on the water. Nor does it appear to your committee legal that the agent can have the power to bind his principal never to do an act, otherwise legal and competent for him to do. The committee have thought proper to submit this matter to the judgment of disinterested counsel, whose opinion on the law, when received, will accompny this report.

The committee recommend the adoption of the following resolutions by the company:

1. *Resolved*, That the depot on Mary street ought to be discontinued, and a new one substituted.

2. That the citadel square would not answer the purposes of the company as a permanent depot.

3. That Smith's wharf, with the addition of the marsh land adjacent, would make the best site for the depot for the company.

4. That for the purpose of bringing the depot nearer the commercial part of city, the committee recommend the purchase of the Laurens marsh, and its adoption as the permanent site of the depot; provided the same can be purchased at a reasonable price, and lawful authority can be obtained for the passage of locomotives to that point.

5. That should the company fail to obtain the Laurens marsh as above, the committee recommend the adoption of Smith's wharf, and the necessary marsh land below and adjoining, as the permanent depot of the company.

6. That this committee be discharged from the further consideration of the questions relating to the depot at Hamburg, and the passage of the river and the inclined plane.

By order of the committee.

J. M. Desaussure,
Cha'm. com. of seven on depots, etc.
Charleston, 18th April, 1846.

We cannot give the descriptions and estimates, as presented by the president, for the different locations indicated on the map, yet we will take the liberty of saying, "first," that, in our opinion, it would evince a sad lack of foresight to think of remaining "at the present locations," on account of their distance from the shipping, to, and from, which almost the entire freight of the road has to be hauled, over sandy streets, at heavy cost, which amounts to a prohibition of the transportation of many articles.—We will also say, "second," that to change the depot from the present location, to "Citadel square," when a good water front, with ample grounds for depot, work shops, store-houses, and wharves, *can be had* at *any* price, would, in our opinion, be a great mistake, even if the "square" was presented to the company as a gift.

It is the duty, an *important* duty, in our opinion, of the company to adopt measures which facilitate the business of the community, and the wonder is, that the pioneer work has so long delayed to remove the just complaints of business men, in relation to the expense of transfering freight from the cars to the shipping, and the reverse. It is never too late, however, to remedy an evil, and we are pleased to learn that the company are now disposed to act in the matter, and that ample grounds can be had, on *deep water*, at fair prices, and that, too, without passing through the thickly populated part of the city.

As to the relative advantages of "Smith's wharf" and the adjoining lots, and the "Laurens marshes," we will not hazzard an opinion; but we may be allowed to repeat a remark of the president of the company (see page 15), viz: that "*there is no estimating the extent of various articles which will be introduced into general use in the interior by diminishing the cost of transportation.*" The italics are ours, but the truth of the remark is not appreciated as it ought to be by some others, and we desire to impress it upon all; and there is no one department in railroad management, in which greater errors have been committed, than in the selection, arrangement, and extent of depot grounds; we, therefore, repeat the shrewd and very true remark, of one of the *earliest, most constant*, and *far-seeing* friends of the cause—*P. P. F. Degrand*, Esq., of Boston—in reply to the committee of the Massachusetts legislature, as to "how much land was required for a railroad depot like the Western," he said, "*all you can get, Mr. chairman, and then a little more!*" We therefore, say to the managers of the South Carolina railroad, that that location is the best for them which has the *best water front*, and the *largest space—no matter what the cost.*

We shall take another opportunity of referring to the *minority* report, in which we find opinions expressed differing widely from those put forth in this document. We shall also notice the report of the engineer, on the policy of dispensing with the incline plane, at the western termination of the road.

Journal of Science and Arts.

From the November number of this valvable work we extract the following article, from the "department of scientific intelligence."

A simple method of protecting from lightning buildings with metallic roofs.—By Prof. Henry, from proceedings of American phil. soc., June 20th, 1845.

On the principle of electrical induction, houses thus covered are evidently more liable to be struck than those furnished either with shingle or tile. Fortunately, however, they admit of very simple means of perfect protection. It is evident, from well established principles of electrical action, that if the outside of a house were encased entirely in a coating of metal, the most violent discharge which might fall upon it from the clouds would pass silently to the earth without damaging the house, or endangering the inmates. It is also evident, that if the house be merely covered with a roof of metal, without projecting chimneys, and this roof were put in metallic connection with the ground, the building would be perfectly protected.—To make a protection, therefore, of this kind, the professor advises that the metallic roof be placed in connection with the ground by means of the tin or copper gutters which serve to lead the water from the roof to the earth. For this purpose, it is sufficient to solder to the lower end of the gutter a riband of sheet copper, two or three inches wide, surrounding it with charcoal, and continuing it out from the house until it terminates in moist ground. The upper end of these gutters are generally soldered to the roof; but if they are not in metallic connection, the two should be joined by a slip of sheet copper. The only part of the house unprotected by this arrangement will be the chimneys; and in order to secure these, it will only be necessary to erect a short rod against the chimney, soldered at its lower end to the metal of the roof, and extending 15 or 20 inches above the top of the flue.

Considerable discussion in late years have taken place in reference to the transmission of electricity along a conductor; whether it passes through the whole capacity of the rod or is principally confined to the surface.—From a series of experiments presented to the American philosophical society, by Prof. Henry, on this subject, it appears that the electeical discharge passes, or tends to pass, principally at the surface; and as an ordinary sized house is commonly furnished with from two to four perpendicular gutters (generally two in front and two in the rear), the surface of these will be sufficient to conduct, silently the most violent discharge which may fall from the clouds.

Railways in Great Britain.

We find the following very just views, in relation to the ability to construct the numerous new lines of railway which were chartered in 1845 and 1846—amounting to 8,364 miles, in the Mining Journal.

In examining into the details of the statistical data of railway progress, there is certainly much to cause wonderment as to the sources from whence are to be derived, not only the iron wherewith to form them, but the needful capital to cover the enormous outlay. It will be seen, in a small paragraph in another part of this day's Journal, that the amount authorized to be raised by capital and loans in England, Ireland and Scotland, is £120,843,135, for the construction of 4,705 miles of railroad; and the entire amount authorized in the three past sessions is £194,983,767, for 8,364 miles. These are, undoubtedly, startling figures; but we must not suffer the judgment to be taken prisoner, by a too sudden alarm at the largeness of the amounts. We have before endeavored to show, that as these sums are not required at once, but spread over an almost indefinite period of time, commercial benefit, rather than injury, will ensue from such enormous circulation. The largest portions of these funds are paid for labor, which thus acts as a fertilizing stream through the community. As time progresses, portions of lines are opened, traffic increases, and large returns are made—returning to the original advancers, in most cases, a good per centage on the outlay; and as a large portion of this apparently enormous amount will be continually standing in the shape of debentures, loans, etc., it is the yearly interest only which has to be provided for at *fixed* periods—the principal being paid off as circumstances allow. These remarks will

not apply to iron—in that commodity the formation of the authorized lines is a settled and long continued drag on the market; and though we are not of those who fear the possibility of supplying all the lines for many years after the time allowed for their completion, still we have no doubt there will be delay through a want of supply; and probably a higher than the present price may be obtained, although the present healthy and steady appearance of the market does not indicate a desire on the part of the manufacturers to create exorbitant rates, which can only be followed by a more than corresponding depression. Numerous furnaces will, doubtless be erected, and the make of iron very considerably extended during the next few years; and, as for material, Britain may with reason say "it is inexhaustible."

With respect to railway parliamentary business for next session—it has every probability of being, if not quite so formidable as last, quite sufficient to keep honorable members from going to sleep; 65 of the schemes which were lost last session, are to be renewed in the ensuing one, many of which will be recognized as old friends with new faces; two new lines are projected westesly from London, by Oxford and Cheltenham—one by the broad, and the other by the narrow gauge parties—the contest being doubtless for Wales; and we shall probably have another battle of the gauges. For branches and extensions, the Eastern Counties have 6 bills; Great Western, 2; London and South Western, 6; South Eastern, 5; and the Gt. Northern, 5 bills.

(Official) Reading Railroad.

A comparative statement of the business on the Philadelphia and Reading railroad for the week ending—

	Oct. 26, 1844.	Oct. 25, 1845.	Oct. 24, 1846.
Travel	$1,995 68	$2,163 21	$2,907 97
Freight on goods.	957 49	1,223 51	2,726 01
" coal...	15,176 17	24,481 28	37,775 03
	$18,129 34	$27,868 00	$43,409 01
Coal trans.—tons.	13,534	19,355	26,727

A comparative statement of the business on the Philadelphia and Reading railroad for the week ending—

	Nov. 2, 1844.	Nov. 1, 1845.	Oct. 31, 1846.
Travel	$1,384 16	$2,266 34	$2,836 35
Freight on goods.	776 74	1,062 81	3,367 70
Do. do. coal..	13,203 70	27,045 88	47,249 34
	$15,364 70	$30,375 03	$53,453 40
Coal trans., tons..	11,861	21,191	31,913

A comparative statement of the business on the Philadelphia and Reading railroad for the week ending—

	Nov. 9, 1844.	Nov. 8, 1845.	Nov. 7, 1846.
Travel	$1,766 34	$1,976 02	$2,514 46
Freight on goods.	924 89	1,147 85	2,564 18
" coal...	13,887 70	27,804 26	40,134 42
	$15,578 93	30,928 13	45,243 24
Coal trans.—tons.	12,443	21,897	28,269

A comparative statement of the business on the Philadelphia and Reading railroad for the month ending Oct. 31st,

	1844.	1845.	1846.
Travel	$8,717 04	$9,242 26	$13,857 01
Freight on goods.	3,906 66	4,844 77	12,300 75
Do. do. coal..	62,068 56	116,999 66	198,478 87
Miscell's receipts.	1 00	9 62	78 00
Transp. U.S. mail.	783 33	783 33	783 33
	$76,476 59	131,879 64	225,397 97
Coal trans., tons..	55,525	92,415	137,305

Steam Ship Propelling Machinery.

Joseph Maudslay, of the firm of Maudslay and Field, Lambeth, engineers, for "improvements in propelling and propelling machinery."—Granted January 13th; Enrolled, July 13th, 1846.

Fig. 1.

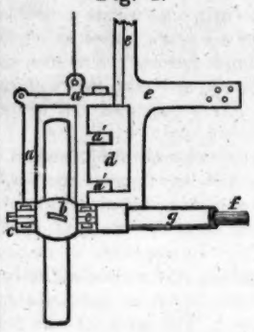
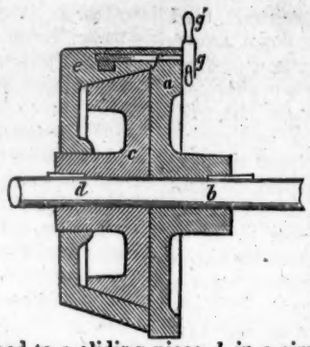


Fig. 2.



This invention consists in a mode of raising screw and other similar stern propellers when the same are fixed abaft the stern post. Fig. 1 shows the mode of effecting this object. *a a* is a rectangular frame-work of iron, which supports at its lower end a hollow shaft *b*, carrying the vanes of the propeller and working freely in the plummer blocks *c c*. The rectangular frame *aa* is provided with projecting pieces *a' a'* which fit into and are attached to a sliding piece *d*, in a similar manner to a hinge joint. This sliding piece *d d* is capable of moving freely upon a strong frame *e e*, which latter is firmly bolted to the counter of the vessel. *f* is the propeller shaft which passes through a hollow shaft or tube *g*, the propeller shaft being squared at its outer end so as to fit the hole formed in the boss or hollow shaft *b*, which hole is of the same figure. *h* represents a chain, one end of which is attached to the rectangular frame *a*, the other being attached to a capstan or windlass on board the vessel. When it is necessary to raise the propeller, the square end of the shaft *f* is withdrawn from the boss or shaft *b*, then, by giving motion to the windlass, the part *d* will slide upon the frame *e e*, carrying with it the rectangular frame *a a* and propeller. The advantages of this arrangement are stated to be, that the propeller may be placed lower down than heretofore, and consequently a larger propeller may be employed, moreover the water passing from the propeller will meet with less obstruction against the sides of the vessel, and which vessel will be less subject to that tremulous motion caused by the action of the propeller.

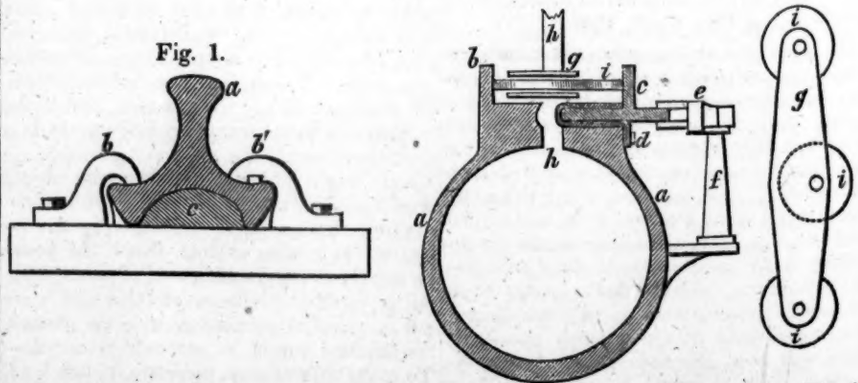
The second improvement consists in disconnecting the propelling shaft from the driving shaft, thereby allowing the former to run loose upon its axis when the vessel is required to be worked with sails only, or when she is laying in a tide way. In Fg. 2, *a* is a circular plate of cast iron, firmly keyed on the outer end of the driving shaft *b*: *c* is a casting in the form of a frustrum of a cone, and is firmly keyed upon the inner end of the propeller shaft *d*; upon the periphery of this conical piece there is a hollow casting *e* turned accurately to fit the conical part *c*. On the periphery of the plate *a*, there is cast three "snugs," or projections, through each of which is passed a bolt *f*, (only one of which is shown in the drawing); at the outer end of these bolts there is a winch *g*, or handle, having three projecting arms *g'*, so that one is always uppermost. It will therefore be seen by the above that by screwing the bolts *f*, and the part *c*, the propeller shaft *d* will be driven by the friction of the two conical pieces *c* and *e*, and by unscrewing the conical part *c* and propeller shaft will be allowed to run loose.

Atmospheric Railways.

Charles Wheeler, of Speenhamland, Berkshire, machinist, for "certain improvements in the construction and working of railways."—Granted January 22d; Enrolled July 22d, 1846.

Fig. 2. Fig. 3.

Fig. 1.



The first part of this invention is for an improved form of railways, shown at Fig. 1, which represents a transverse section of a rail constructed of such a form as to present three different surfaces to the action of the wheels, that is to say, when one surface is worn out, another can be turned up, as will be clearly understood by the following de-

scription. *a* is a section of the rail, fastened down to the sleeper by means of cast iron blocks *b*; between the rail and the block a piece of felt is placed, or a key way may be formed in the blocks, as shown at *b'*, and a hard wooden wedge driven. The rails are further secured to the sleepers by means of a half round piece of wood *c*, upon which the rail is made to rest. The specification states that this description of rail may be made by rolling the bars of iron betwixt three rollers.

The second part of the invention consists in transmitting motion from the piston of an atmospheric railway to the carriage by having a flexible covering to the top of the tube, which is raised up and forced against a wheel attached to the leading carriage by means of a wheel attached to the piston.

The third part of the invention relates to a mode of closing the longitudinal opening by means of a continuous sliding valve, shown at Fig. 2, which represents a transverse section of the pipe and sliding valve constructed according to this part of the invention; *a* is the tube, which is cast with a projecting rib *b*; *c* is a sliding plate, also having a projecting flange similar to that upon the pipe; a number of these plates are hinged together with a rule joint, so as to extend the whole length of the line. Upon the underside of this sliding plate there is a piece of leather *d* firmly attached to the side of the pipe, which piece is brought over the longitudinal slit or opening by the inner edge of the plates *c*, the outer edge of such plates being acted upon by means of springs *e*, supported at intervals by pillars *f*, which have a tendency to force the plate *c* and leather over the opening. *g* is a frame work of iron attached to the vertical arm *h*; this framework supports three anti-friction rollers, which, as the piston travels along, forces back the plate *c*, so as to allow the vertical arm to pass, the opening being closed again by the action of the springs *e*. Fig. 3 shows a plan of the framework *g*, and rollers *i*.

New Mode of Blasting Rocks.

The London Mining Journal gives the following new method for rock blasting:

The expense attending the common mode of blasting in mines and quarries, induced M. Carbebosse to commence experiments on the quantity of rock removed by a certain portion of powder, in proportion to the size of the cavity, and he finds that by the formation of chambers or cavities, instead of the round cylindrical hole commonly made, a much more safe and economical result is effected. The experiments were made on a hard calcarous rock, in which, after making a circular hole in the usual method, hydrochloric acid and water was poured in through a copper funnel, three yards long, three several times, at proper intervals, as the decomposition of the rock proceeded; it was generally allowed to remain two hours, when a sufficient sized cavity was formed at the bottom of the hole to receive a large charge of powder. The remaining liquid was removed by introducing small pistons into the hole five inches long, with valves opening upwards and acting similarly to pump valves. Tow was afterwards introduced, and turned about to dry the rock and then drawn out; powder is poured in until the chamber is two-thirds full. Upon this one of Bickford's fuses is placed; it is then filled up with powder, and the whole tamped with sand, when it is ready for firing. The explosion takes place without either flash or detonation—a dead rumbling only is heard from the cracking rock—the whole mass is seen to tremble, then rise a little, and again to fall, cracked in every direction. The rock being detached in larger masses by these means, are not thrown to a distance, but merely removed, and the gases expanding to their full extent before they escape into the atmosphere, do not detonate. By these means, the operation only cost 5*d.* per yard cube, while by the old method the expense is generally from 2*s.* 6*d.* to 3*s.* 6*d.*

Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

PRINCIPAL CONTENTS.

South Carolina railroad report.....741
Journal of science and arts.....743
Railways in Great Britain.....743
Steamship propelling machinery.....744
Atmospheric railways.....744
Trade and tonnage of the New York canals....746
Working stock of existing railways.....746
Connecticut and Passumpsic railroad.....746
Pennsylvania railroad.....757

AMERICAN RAILROAD JOURNAL.

PUBLISHED BY D. K. MINOR, 23 Chambers street, N.Y.

Saturday, November 21, 1846.

LITTLE MIAMI RAILROAD.—OPEN TO SPRINGFIELD—Distance 84 miles—

connecting at Xinia and Springfield with Messrs. Neil, Moore, & Co's. daily daylight lines of stages going east and north, to Columbus, Zanesville, Wheeling, Cleveland, and Sandusky City. via Urbana, Bellefontaine, Kenton, and the Mad river and lake Erie railroad, or Columdus, Delaware, and the Mansfield and Sundusky City railroad—forming, by these connections, the cheapest and most expeditious route to Buffalo, Niagara Falls, Roehester, Albany, New York, and Boston.

On and after Thursday, August 13, 1846, until further notice, a Passenger train will run as fllows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Old Town, Yellow Springs, and Springfield.

Returning, will leave Springfield at 4 hours 35 minutes A. M. A line of Hacks runs in connection with the Cars, between Deerfield and Lebanon.

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 8 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

The 1¼ P. M. train from Cincinnati, and the 2 40 P. M. train from Xenia, will be discontinued on and after Monday, the 10th instant.

A freight train will run daily.

47tf W. H. CLEMENT, *Sup't.*

Portland and Kennebec Railroad.

The stockolders and friends of this road, says the Boston Courier, met at Gardner, (Me.) on the 4th inst. The result of a conference with the directors of the Portsmouth, Poartland, and Saco road, in reference to the connection of the roads, was a proposition from the Portland and Saco road, "to subscribe $100,000 towards the capital stock of this road—to give to the new road the free use of the depot at Portland, and to run their cars upon the new road: through fares to be divided equally till the road divides six per cent., and afterwards a pro rata fare, according to the distance run." These conditions were considered very favorable. The following gentlemen were chosen directors for the ensuing year:

John D. Lang of Vassalboro', Reuel Williams of Augusta, John Otis of Hallowell, George Evans of Gardiner, George F. Patten of Bath, Joseph Mc. Keen of Brunswick, Josiah Calef of Saco, and B. T. Reed, and Wm. Appleton of Boston.

The Augusta Journal says that the subscriptions in Augusta are more than doubled, and promise to become so in Hallowell and Gardiner. We shall obtain $400,000, at least, upon the Kennebec, and now have full confidence that the work will be commenced early in the spring. No rational doubt exists but the road becoming at once, on its completion, a good dividend paying stock.

A Gold Medal.

We learn with pleasure, says the Philadelphia Inquirer, that a gold medal has been awarded to Jas. Herron, Esq., of this city, by the American Institute of New York, for his great improvements in the structure of railroads, known as the "Herron Track," the models of which are now at the exhibition of the Franklin Institute.

For the American Railroad Journal.

New York, November 9th, 1846.

In the Journal of Oct, 24th is a letter of A. Whitney, Esq., containing some statements calculated to give a very erroneous idea of the cost and value of the New York canals.

The following statement gives the length and cost of the finished canals in this state, and of the finished part of the Genesee valley canal.

Miles.		
372,	Erie canal and navigable feeders.	$7,143,790
79,	Champlain " " "	1,257,604
23,	Cayuga and Seneca " "	236,804
38,	Oswego " "	565,437
8,	Crooked lake	156,776
39,	Chemung canal and feeder	331,693
97,	Chenango "	2,417,000
62,	finished part of Genesee valley canal.	1,500,000
6,	Oneida lake canal and feeder	50,000
	Add for rebuilding locks on Chemung canal.	309,907
Total, 714 miles cost		$13,969,011

The cost of the above canals is taken from sen. doc. No. 98 for 1844, except for the Genesee valley canal. The cost of the finished part of that is given in said doc. at $1,401,064 exclusive of land damages. The land damages, etc., have increased its cost to about $1,500,000 as above given.

The expenditure on the unfinished canals in this state is as follows, viz:

Erie canal enlargement	$12,436,256
Genesee valley canal, [unfinished part].	2,294,000
Black river canal	1,676,111
Oneida river improvement	41,247
	$16,447,614

Although the work already done on the Erie canal enlargement has to some extent improved the navigation; yet this outlay of over 12 millions of dollars has been made solely to increase the canal to about three times its present size so as to allow

of boats 100 feet long, 17½ feet wide, drawing 6 feet of water, conveying from 200 to 250 tons of freight.

The best freight boats on the Erie canal are 81 feet long, 14 feet 3 inches wide, and draw 3 feet 3 inches of water and carry from 65 to 75 tons of freight.

It is therefore unfair to charge to the finished canals the cost of work on the Erie canal enlargement until that enlargement is complete.

The unfinished work on the Black river and Genesee valley canals and Oneida river improvement is and can be of no use until the canals are completed.

The cost of the finished canals in this state including the finished part of the Genesee valley canal as before given, is $13,969,011.

The net income as given by Mr. Whitney, for the year 1844, was $1,803,768, or about 13 per cent. on their cost instead of 6½ per cent. on their cost as stated by Mr. W. in his letter.

There is but one other "pauper canal" in this state, viz, the Delaware and Hudson, which now pays a semi-annual dividend of 8 per cent, and the stock of which sells from 150 to 160 per cent.

Mr. Whitney's statements in regard to railroads in this state are hardly fair.

The total cost of all the finished railroads and of the finished part in use of the unfinished railroads in this state in 1844, was over $18,000,000, on which the total net income in that year, was less than five per cent.

The net income on the New York canals for the year ending 30th Sept. last, was over $2,100,000 or more than 15 per cent. on their cost.

His statements as to the relative cost of transportation on canal and railroads are erroneous, but the above is enough for the present. CLINTON.

Trade and tonnage of the New York Canals.

From Hunt's Merch'ts Mag.

The following tables are compiled from the annual report of the commissioners of the canal fund, on the trade and tonnage of the New York canals.—(Senate document, no. 59, for 1846.)

These tables plainly show that there is an increase in the annual number of lockages on the Erie canal; a rapid increase in the tonnage of products of the forest, and in the total tonnage of the canals.

Table I.—Showing lockages, etc., on the Erie canal.

YEAR.	Number of lockages at Alexander's lock 3 miles west of Schenectady.	Average for each period of five years.	Number of boats arrived at and cleared fm Albany and Troy.	Average for each period of five years.
1824	6,166		8,760	
1825	10,985		13,110	
1826	15,156			
1827	13,004			
1828	14,579		23,662	
1829	12,619		21,490	
1830	14,674	14,006	23,874	*22,000
1831	16,284		26,882	
1832	18,601		25,826	
1833	20,649		31,460	
1834	22,911		32,438	
1835	25,798	20,849	39,690	30,659
1836	25,516		34,190	
1837	21,055		31,082	
1838	25,962		32,120	
1839	24,234		31,882	
1840	26,987	24,751	30,456	31,946
1841	30,320		33,782	
1842	22,869		32,840	
1843	23,184		32,826	
1844	28,219		38,786	
1845	30,452	27,009	40,094	35,665

From an inspection of the above table, it is evident that the number of lockages is increasing, although the capacity of the boats now is double what it was in 1838.

* Estimated, as there are two years uncertain, viz: 1826 and 1827.

Table II.—Showing, in tons, the total movement of articles on all the canals, from 1836 to 1845.

Year	Products of the forest.	Agriculture.	All other articles.	Total.
1836	755,252	225,747	329,808	1,310,807
1837	618,741	208,043	344,512	1,171,296
1838	665,089	255,227	412,695	1,333,011
1839	667,581	266,052	502,080	1,435,713
1840	587,647	393,780	434,619	1,416,046
1841	645,548	391,905	484,208	1,521,661
1842	504,597	401,276	331,058	1,236,932
1843	687,184	455,797	370,458	1,513,439
1844	864,373	509,387	442,826	1,816,586
1845	881,774	555,160	540,631	1,977,565
Total 1st 5 yrs. from '36 to '40 inclusive	3,394,310	1,348,848	2,023,714	6,666,873
Total 2d 5 yrs. from '41 to '45 inclusive	3,583,476	2,313,525	2,169,181	8,066,182
Ave. per ann. fm. '36 to '40, inclusive	658,862	269,770	404,743	1,333,374
Ave. per ann. fm. '41 to '45, inclusive	716,695	462,705	433,836	1,613,236
Increase in 5 years	57,833	192,935	29,093	279,862
Inc. per ann.	11,566	38,587	5,819	55,972

From the above it is evident that the tonnage of the canals is rapidly increasing at an average rate of about 56,000 tons per annum. It is also evident that the tonnage of products of the forest is increasing at an average rate of over 11,000 tons per ann.

Table III.—Showing the tonnage arriving at tide water.

Year.	Products of the forest.	Agriculture.	All other articles.	Total
1836	473,668	173,000	49,679	696,347
1837	385,017	151,469	75,295	611,781
1838	400,877	182,142	57,462	640,841
1839	377,720	163,785	60,623	602,128
1840	321,709	302,356	44,947	669,012
1841	449,095	270,240	54,999	774,334
1842	321,480	293,177	51,969	626,727
1843	416,173	346,140	74,548	836,861
1844	545,202	383,363	102,830	1,031,395
1845	607,930	447,627	149,386	1,204,943
Total 1st 5 yrs, from '36 to '40 inclusive	1,958,991	972,752	288,066	3,219,749
Total 2d 5 yrs. from '41 to '45 inclusive	2,339,880	740,547	433,732	4,514,159
Ave. per ann. 1st 5 yrs. from '36 to '40, inclusive	391,798	194,550	57,601	643,949
Ave. per ann. 2d 5 yrs. from '40 to '46	467,976	348,109	86,746	902,831
Increase in 5 years	76,178	153,559	29,145	258,882
Ann. increase.	15,235	30,712	5,829	51,776

From the above, it is evident that the total tonnage arriving at tide water, is rapidly increasing, at an average rate of about 52,000 tons per annum. It is also evident that the tonnage from products of the forest arriving at tide water, is increasing at the rate of about 15,000 tons per annum.

Owing to the deposite of sediment from the small streams running into the canal, and various other causes, the capacity of the canal was so much reduced, that, in 1838, the average load of boats with *down* freight, was but thirty tons.—(See p. 438, vol. xii., Merchants' Magazine.)

In consequence of bringing into use some of the completed work of the Erie canal enlargement, and improving the remaining part of the canal, its capacity has been so increased, that the average load of boats with *down* freight, in 1845, was over sixty tons.

This increase of load is, in some degree, owing to improvements in the construction of boats, but mainly to the improvements in the canal itself.

The effect of this increased capacity of the boats has been to reduce the cost of transportation about 30 per cent. below what it was in 1838.

H. T.

New York, May 15th, 1846.

Working Stock of Existing Railways.

We find in the Civil Engineer and Architects Journal for August, the following abstract of the returns made to the railway department of the board of trade, in pursuance of an order of the house of lords, of the "working stock, [engines, carriages and wagons,] belonging to railway companies at present in operation:"

Name of railway.	Engines.	Passenger carriages.	Luggage vans and trucks.
Arbroath and Forfar	5	12	110
Birmingham and Gloucester	40	46	586
Bristol and Gloucester	11	20	213
Chester and Birkenhead	10	60	36
Dublin and Drogheda	15	69	105
Dundee and Newtyle	7*	9	138
Durham and Sunderland	13†	23	28
Dunfermline and Charlestown	horses	2	189
Eastern counties	66	204	1,142
Edinburg and Dalkeith	horses	28	104
Edinburgh, Leith and Granton	horses	8	
Glasgow, Paisley, Kilmarnock and Ayr	31	133	1,334
Grand Junction, including Liverpool and Manchester, and Bolton and Leigh	128	343	1,978
Gravesend and Rochester	4	16	6
Great North of England	37	46	717
Great Western	127	232	919
Hartlepool dock and railway	5	8	6
Hayle	7‡	6	119
Hull and Selby	17	45	238
Lancaster and Preston Junction	6	37	36
Leicester and Swannington	8	4	13
Llannelly and Llandillo	4	2	454
London and Blackwall	2†	47	9
London and Brighton	44	163	423
London and Croydon	8	56	89
London and Southwestern	47	212	508
Manchester and Birmingham	27	100	961
Manchester, Bolton, and Bury Canal Navigation and railway	12	52	228
Maryport and Carlisle, [including Whitehaven Junction	8	16	135
Midland	109	251	1,842
Newcastle and Darlington	37	81	2,515
Newcastle-upon-Tyne and North Shields	5	28	124
Newcastle-upon-Tyne and Carlisle	26	67	653
Newtyle and Coupar Angus	1	2	48
Norfolk	18	50	497
North Union	19	49	54
Pontop and South Shields	13	§	2,649
Preston and Wyre	8	40	108
St. Helen's canal and railway	9	—	20
Sheffield, Ashton-under-Lyne, and Manchester	25	105	469
Stockton and Hartlepool, and Clarence	19	23	67
Southeastern	90	409	881
Taff Vale	12	23	328
Ulster	11	34	102
Winshaw and Coltness	11	10	1,016
York and North Midland	48	109	1,050

* 3 are stationary engines.
† All are stationary engines.
‡ 2 are stationary engines.
§ Passenger carriages provided by the Newcastle and Darlington company.

Connecticut and Passumpsic Railroad.

In the present number of the Journal, will be found the first "Annual report of the directors of *Connecticut and Passumpsic rivers railroad* company." The directors give, at length, a statement of the condition of this road; and the affairs of the com-

pany are represented to be in a condition of as rapid progress as may be, with due regard to the *certain* accomplishment of the route.

The company have secured the services of Miller Fox, Esq., as chief engineer upon the route, a gentleman of well known experience and ability, who is pushing the work forward as fast as is practicable; and the contractors are now at work, and progressing with all reasonable despatch. The cost of preparing that portion of the road now under contract for the superstructure, will not vary much from $15,000 per mile. Upwards of $35,000 have been paid in, upon the capital—a little over $6,000 of which have been expended. The directors congratulate the stockholders upon the prospects of the company, and the work will be completed as soon as may be. We refer the reader to the report itself.

To the stockholders of the Connecticut and Passumpsic rivers railroad company.

In prosecuting the duties assigned to the board of directors during the brief period which has elapsed since the organization of the corporation, it has been their care to make such preliminary provisions and arrangements as shall secure the certain rather than the speedy accomplishment of the work; and this with a view also to the most rigid economy consistent with a thorough and durable structure.

Considering the importance of this railroad as a part of the great line which is destined to connect the city of Boston and the valley of the Connecticut with Canada and the city of Montreal, the directors have felt the importance of maintaining such correspondence with the railroad interests with which this road is to be connected as shall secure mutual and reciprocal advantages,—and they are happy to say that in this respect the interchange of communications has been most amicable aad satisfactory.

The board have considered it of paramount importance to obtain accurate and very thorough surveys prior to a commencement of construction. A preliminary survey of a portion of the line had been made previous to the organization of the company in January last, but that survey was suspended during the winter months.

Early in April the board engaged the services of Miller Fox, Esq. as chief engineer, a gentleman of much practical experience, and in whose abilities, sound judgment and skill, as an engineer, the directors repose entire confidence.

Having employed competent assistants and organized a suitable corps, Mr. Fox commenced the survey and final location of the railroad between Fairlee and Wells river on the 26th day of April, and completed the field operations on the 21st of May.

This portion of the line known as the Wells river division is found highly favorable. The distance is 17·71 miles. There are no curves of a less radius than 1432½ feet, and the maximum inclination of the grade is 26·4 feet per mile. Of the 17·71 miles there are 14·54 miles of straight line, and 8¼ miles level. The estimated cost for grading, masonry, bridges, altering roads, making farm roads, and preparing the road bed for the superstructure or railway is $15,077 14 per mile.

This division of the road was located by vote of the board August 4th, and on the 21st of the same month so much of the road as lies between the southerly point of Sawyer's mountain in Fairlee, and Peters' point, north of Wait's river, in Bradford, was put under contract at a price not exceeding the estimates of the engineer. The contractors, Messrs. E. Gilmore, & Co., commenced operations on the 7th of September, and are prosecuting the work with a competent force and with reasonable despatch.

The line from Fairlee to White river, has been, surveyed to ascertain the general features of the route, preporatory to a final location; should it be decided not to cross Connecticut river at Oxford.

The distance is 22¼ miles. An estimate of the cost of grading this line, based upon the preliminary survey, has been made, which may be regarded as a near approximation to the real cost, and which is $351,138 52, or $15,781 51 per mile. There will be no greater inclination than 26·4 feet per mile, and no curve of less radius than 1146 feet.

The survey of the White river division was closed on the 15th of June, since which the engineering department have been employed in extending the survey north, and performing the necessary office work.

The survey as far as St. Johnsbury has been made with care, preparatory to a final location; and the preliminary survey between St. Johnsbury and Derby Lane, has been extended as far as the heighth of land between the waters of the Passumpsic and those flowing north into Canada.

No serious obstacles to the construction of a railroad have been found to exist; and with the exception of a few points on the St. Johnsbury division, the line as far as the heighth may be regarded as very favorable.

A letter from the assistant engineer, Mr. D. C. Ruggles, received last evening, states that he has arrived at the summit near "Bean Pond," with the preliminary survey, and ascertained that where Mr. Twining, in his report of 1837, reported grades of 80 feet per mile, he will be able to pass the summit with grades of only 50 to 55 feet per mile. This information must be gratifying to the friends of the road; and while upon a careful examination and final location of the road the inclination of the grades may be still further reduced, it is certain that it cannot exceed 60 feet to the mile.

The treasurer's account as made for the first day of October is as follows:

Capital paid in, - -	$35,335 62
Disbursements for altering public roads, machinery and bridges, land damages, grading, engineering and expenses, - -	6,277 67
Balance, - - - - -	$29,057 95

An amount exceeding $14,000 will have been paid out during the present month for land damages, grading masonry, engineering, etc., making the whole expenditure before the 31st of October, instant, somewhat over $20,000, and leaving a balance of about $15,000—which sum will probably be adequate to the expenditures of the present year.

As it will be important to continue operations at certain points during the winter, preparatory to a more efficient and extended scale of operations the ensuing season, it may be presumed that a second installment will be called for in January next.

The board, at its meeting in January last, adopted a vote to allow interest on all instalments from the time when paid in; and for the accommodation of the country stockholders, many of whom own but a small number of shares, the treasurer was instructed to receive on such shares the whole amount, or such portions of the same as may be offered in advance of the assessments—which sums so paid in will be entitled to interest at the legal rate from the time of payment.

It has been remarked that in the preliminary arrangements of the board, the directors have had in view a rigid economy. Hence in part, the fact that no greater portion of the road has, as yet, been put under contract. A heavy expenditure the present year would have involved a loss of interest upon the capital expended, since no part of the road can be profitably used, if completed, until the Northern railroad shall have been extended to Connecticut river.

As, however, it may be safely assumed that railroad will have been completed to the point of junction by the 1st of January, 1848, the directors recommend that during the year 1847 a more vigorous policy should be pursued, and that two divisions of the Connecticut and Passumpsic rivers railroad, as designated above, be in readiness to receive the rails very soon after the completion of the Northern railroad. And it is apprehended that the operations of the present year though limited in amount, will be found greatly to facilitate, and advantageously to affect the scale of operations now recommended for the ensuing year.

It may not be improper to glance at the position of the Connecticut and Passumpsic river railroad, in connection with the progress of the line of railroads at its northern and southern extremities. It is a gratifying fact that nearly coincident with the commencement of constructions upon the Connecticut and Passumpsic rivers railroad, the St. Lawrence and Atlantic railroad company have put under contract the first thirty miles of their road, between Montreal and Sherbrooke, and that the state of their subscriptions is favorable for an early extension of their work to Sherbrooke, and to the province line.

The northern railroad which will connect the C. and P. with the Concord railroad, is in a state of forwardness throughout its whole extent, with the prospect of being completed by the commencement of the year 1848.

A continuous line of railroads is now in operation from Long Island sound to Greenfield, Mass. Charters have been granted for railroads between the latter place and the lower terminus of the C. and P. railroad, and some progress has been made in construction.

It is obvious that so important a line can-

not long remain unoccupied, and when these lines are completed the C. and P. R. railroad will not only become a constituent part of the line from Montreal to Boston, but will be the only railroad avenue from the eastern townships of Canada and northeastern Vermont to the lower valley of the Connecticut and the city of New York.

It is a matter of interest to the public that the Concord and the northern railroad companies are limited by their charters to a dividend of 10 per cent. per annum on their capital. Any increase of business, therefore, upon those roads which shall return an income beyond 10 per cent. per annum, will impose upon those corporations the necessity of reducing their rates of toll.

The annual report of the directors of the Concord railroad mentions the fact that their "tariff for passengers was reduced on the 1st day of November last," and states that "in the opinion of the directors the income of the road for the past year will justify a further reduction of the freight tariff at an early date."

When the connection shall have been formed between the Northern and the Vt. Central railroads at the mouth of White river, and the Connecticut and Passumpsic rivers railroad shall have formed its junction with the Northern railroad, a great reduction may be anticipated in the rates of toll between that point and Boston.

It will be seen, therefore, that prospectively the tariff for freights and passengers on this line must prove very satisfactory to the public, and the effect on the country, will be, to cheapen the articles of import and greatly to increase the value of produce and all articles exported from it.

The Connecticut and Passumpsic rivers railroad in its course up the valley of the Connecticut and Passumpsic rivers to the Canada line, traverses a fertile and well settled country 100 miles in length, and 50 miles by average in breadth, the local business of which is already very considerable. The public lines of stages between the valley of the Passumpsic and Concord, N. H., although nearly quadrupled within the last few years, are altogether inadequate to the comfortable conveyance of the passengers; while the continuous processions of heavy teams loaded with produce and merchandize, indicate at once the desirableness of railroad facilities for the country, and the sufficiency of business to make the investment profitable.

In conclusion the directors congratulate the stockholders and friends of this enterprize, in view of the fact that, notwithstanding the existence, at first, of difficulties and discouragements seemingly insurmountable, the construction of the Connecticut and Passumpsic rivers railroad has been *commenced*, under circumstances which may well afford assurance that it will be steadily and unremittingly prosecuted, until it shall unite Canada with the Atlantic; and that the investment will prove to be one of the most productive among the New England stocks. All which is respectfully submitted.

Directors of the Connecticut and Passumpsic Rivers Railroad Company.—Erastus Fairbanks, Benj. B. Mussey, Richard W. Bailey, Fitzhenry Homer, William Thomas, Addison Gilmore, Josiah Stickney, William F. Weld, John P. Simonds, Wm. Walker, Jr., Joseph Sawyer, Asa Low, Henry Keyes, E. B. Chase, Portus Baxter.

At a meeting of the stockholders October 6, 1846, the following gentlemen were elected directors for the year ensuing:

Erastus Fairbanks, St. Johnsbury, Vt.; Fitzhenry Homer, Benja. B. Mussey, Wm. F. Weld, Richard W. Bailey, Addison Gilmore, Josiah Stickney, Wm. Thomas, Nathaniel H. Emmons, Boston, Mass.; Wm. Walker, Jr., Concord, N. H.; Joseph Sawyer, Piermont, N. H.; Asa Low, Bradford, Vt.; Henry Keyes, Newport, Vt.; E. B. Chase, Lyndon, Vt.; Portus Baxter, Derby, Vt.

Erastus Fairbanks, President; Asa Low, Vice President; Josiah Stickney, Treasurer; Henry Keyes, Secretary; Miller Fox, Principal Engineer.

Pennsylvania Railroad.

The Pittsburg Gazette, in an article upon this railroad, gives the annexed account of the rapidly growing trade of that city, which in itself is a weighty argument against diverting the immense traffic of that region from its *natural* channel. Alluding to the "prosperity of Pittsburg," it says:

Another item going to show the immense business transacted in Pittsburg is the amount of steamboat tonnage in port, and arriving and departing daily. On Wednesday there were 24 large steamers below the bridge, and four above it during the day. Yesterday there were about as many. Their tonnage capacity cannot be short of *eight thousand tons!* This simple fact is evidence of the extent and value of the shipping interest of this port. We have seen as many as forty-two steamboats in port at one time. These do not include the new boats building, or boats undergoing repairs.

As to new steamers, we have noticed 13 under way at one time last spring. We cannot say exactly how many new boats have been built this year in this city, but we believe we have averaged *one per week.* An eastern journal, alluding to this branch of our business, humorously inquired "the price of steamboats at the factory?"

The carrying trade to and from Pittsburg, is increasing with marvellous rapidity. The means to accommodate it have increased in the same ratio. It bids fair in time to become of prodigious magnitude. Every year opens up some new feeder to our trade. It was only last year that the Erie extension canal was fairly in operation. This year we have the Sandy and Beaver. Shortly the Allegheny river must be improved as the Monongahela now is. The effect such an improvement would have is conceived by very few.

The growth of the trade on the Monongahely would be but a mere trifle to the enormous strides the Allegheny region would make. The waters of that stream drain a surface of country a dozen times as large as those of the Monongahela. We frequently see boats at our wharves from western New York. The famous Goshen butter and cheese occasionally came down the Allegheny from the interior of western New York. Its wealth in mineral and lumber is inexhaustable, besides the well known fact that as the country is cleared (and that process is progressing rapidly) agriculture extends.

Next year we shall probably have a railroad partially built towards Cleveland, which will pour a rich volume of wealth into our lap. All these things directly contribute to largely increase the amount of tonnage entered and cleared at this port. We expect, (*Deo volente*) to see the Duquesne way lined with warehouses, put up especially to accommodate the Allegheny trade. And we also expect to see in a few years, many other additions not less notable, to the flourishing commerce of Pittsburg.

Since the above was prepared, we are gratified to learn, from the Philadelphia Pennsylvanian, that the common council, on Tuesdry evening, responded fairly to the desire of the business community, by passing an act to subscribe to the stock of the Pennsylvania railroad company. The select council is probably friendly to the same measure. It is then rendered nearly certain, adds that paper, that this great and, to Philadelphia, all-important work, will soon be commenced and completed. The sum of five millions of dollars will enable the company to make a continuous road from Philadelphia to Pittsburg, connecting the Portage road; and thus, in the short space of two years, we may see vast additional amounts of the products of the great west poured into the markets of this city, enriching all its branches of industry.

New York Canal Tolls.

The amount of tolls received upon the New York state canals, for the 3d week of October, 1846 and for the season, the present, and last year, were as follows:—

New York State Canals.—Amount of Tolls.

Third week in October 1846.....	$121,120 93
Corresponding week in 1845.....	133,926 71
Decrease in 1846.....	$12,805 78

The breaches in the canals have probably decreased the tolls for the week ending on the 22d of October, in 1846.

The total amount of tolls on all the canals, from the opening of navigation to the 22d of October, in 1846,

Was.....	$2,218,295 54
Total to 22d of October 1845....	2,080,482 82
Increase.....	$138,812 72

The increase for the year will not be so large, at this rate as was inticipated. In our previous calculations we made no allowance for such a contingency. The high prices ruling on the seaboard for all descriptions of agricultural products, induces us to think that the rush just before the navigation closes, will swell the increase of tolls much above the present amount. There is not that anxiety and fear in relation to shipping produce on the canal up to the latest moment, which in former years checked the transmission of merchandize, as the laws of this state now give the different railroad companies the privilege of transporting produce during the suspension of navigation; and any quantity, which might, on its way by canal, be arrested on its progress by ice, can be transferred to

a rail car, and reach its destination. In this way, every barrel of flour and bushel of grain is sure of reaching market. Navigation on the Hudson river continues free for several weeks after the canals close; and the supplies of breadstuffs destined for this market, generally comes forward before the river freezes over.

Extensive Iron railway Bridge and Viaduct.—An iron bridge, in size and magnificence, perhaps never before equalled, is about to be erected, with a corresponing viaduct across the Tyne, from Gateshead to Newcastle-upon-Tyne, for the Newcastle and Berwick railway. The iron work contract was let at York; there were a good many tenders, but Messrs. Hawks Crawshay and Sons of Gateshead, were the successful competitors; Messrs. Losh, Wilson and Bell, of the Walker iron works, and Mr. John Abbott and Co., of the Gateshead iron works, will also take part with them in the construction of the work—Messrs. Hawks taking the castings for the approaches, and the other firms the arches for the bridge. The contractors are to make, supply, and erect all the cast and wrought iron and wood work for bridge and approaches, according to the designs, and under the instructions, of R. Stephenson, Esq.; it is to consist of six cast iron circular arches, with a curved approach at each end, and will, in fact, be a double bridge; the railroad on the summit, and a carriage road and two foot paths suspended from the arches. The span of the arches will be 125 feet, supported on pillars 21½ feet high, and 14 inches square, and the approaches from both Newcastle and Gateshead will be 251 feet in length, and precisely similar. Two courses of 3 inch planking will be placed beneath the rails, between which will be a layer of Borrowdale's patent asphalted felt, to render them water proof; and the carriage road beneath will be paved with wood to prevent vibration, and the foot path planked. Every arch will be completely erected on the contractors' premises by itself, when the engineer will inspect and test its strength and fitness. The quantity of iron required will be about 6,000 tons, and the contract is stated to be £120,000. The entire cost, inclusive of lands and buildings, will be £300,000 and it is to be finished, so as to be available for public traffic by the 1st of August, 1848. —*London Mining Journal.*

Miscellaneous Items.

Extension of the Mansfield and Sandusky City Railroad.—We understand that the route has been surveyed to Mount Vernon, and found quite favorable, increasing the distance between the two places about four miles more than the present travelled road. The question whether the county of Knox should subscribe $100,000 to a railroad, was submitted to the people on the day of the annual election, and decided in the affirmative by rising of 2000 majority. It is said that the vote was given with special reference to the extension of this road.—*Sandusky Clarion.*

The Housatonic railroad company have received from the manufacturers two large locomotives, intended for operation on their road. They weigh 18 tons each, and are called the "Massachusetts" and "Connecticut."

Rhode Island Legislature.—The act to incorporate the Providence, Warren and Fall River railroad company was finally passed on the 29th ult.

The Barnstable Patriot announces that the building of the Cape Cod branch railroad is actually under contract, and that every endeavor on the part of its directors will be made to expedite its progress and completion.

There is now no doubt of the railroad between Montreal and Troy being speedily constructed, the stock required to be taken up in Montreal having been nearly all subscribed.

The Sandy and Beaver Canal.—The Pittsburg Gazette of Thursday last, says that on that day this work was to be opened and boats pass through from New Lisbon to the Ohio river. It congratulates the friends of the improvement that after so long and severe a struggle it has at length been so far completed. The balance of the canal is fast progressing towards completion, and by next spring the entire line will be opened through to the Ohio canal.

New Railroad Invention.—Mr. Jos. Grenel, of Newark, N. J., has invented and patented an improvement in the method of constructing the rails of railroads, which promises to reduce the cost, and at the same time, increase their stability and security. The plan, among other advantages, allows of the same rail being used on one edge first, and when that is worn on one surface to be changed top and bottom, and again reversed; by this he has four wearing sides or surfaces to one rail. The mode of fastening the ends of the rails together is said to afford perfect security against looseness.

Erie Railroad.—The Commercial Advertiser says that another section of this road, the one from Middletown to Otisville, nine miles, was opened for travel during the present week. The present terminus is near the deep cut at the Shawangunk mountains, of which we furnished a descripton some 3 months since. Another section of 11 miles, extending to the viliage of Port Jervis, on the Delaware river, will be ready for travel in the early part of next summer, and the board of directors have now under consideration proposals for the grading, etc., of 130 miles more of the road. Thus this great work goes on slowly but surely towards its completion, and the day is not far distant, we trust, when we shall have through it another channel for the reception here of the treasures of the great west.

A meeting of the friends of the Rutland railroad was held at the Tremont Temple, Tuesday evening, Oct. 27. Only $200,000 more is wanting to insure the completion of this great enterprize; an enterprize more important to the interests of Boston than any other now under contemplation.

Cape Cod Railroad.—It is stated that the subscription to this road has reached $300,000, and that the road will be immediately located and placed under contract.

Canal at the Florida Isthmus.—The late destructive gale at Key West, and in the neighborhood of the Florida Keys, will, we hope, says the "Sun," induce congress to direct a survey of the Florida peninsula, for the purpose of commencing and completing a ship canal, uniting the Atlantic with the Gulf of Mexico, and avoiding not only a considerable distance in navigation, but those dangerous reefs, shoals and keys which are spread over the Bahama banks. We do not know at present a more important and valuable project which in saving to underwriters alone will in a few years pay the expense of its construction, without reference to the great preservation of life and property, and the great saving of distance. The St. John's river and the St. Mary's, both navigable to a certain extent, can be used for some distance until connected with the canal, which emptying into Vacasauka bay in the guif, would make the distance short of 120 miles, and the excavation over a level country considerably less. Another route may be adopted. The St. John's river is navigable for vessels drawing eight feet of water. Thence to lake George is 107 miles and from there the canal could be extended to the gulf, a short distance. Several routes have been surveyed for the accomplishment of this important project. Making Tampa bay the outlet, would also be securely effectual. At all events, the period has arrived when something must be done for the security of our navigation to New Orleans and the Gulf of Mexico, and it can only be accomplished by a ship canal across the Florida Isthmus.

Worcester and Nashua Railroad.—A meeting was held in this town on Friday, and a junction formed with the Nashua and Groton company, chartered by the legislature of New Hampshire, by which the two companies become one. The following gentlemen were then chosen directors:

John A. Sockwell, Norwich, Conn.; Franklin Haven and Edward Lamb, Boston; Alex. Dewitt, Oxford; Stephen Salisbury and W. A. Wheeler, Worcester; H. W. Bigelow, Lancaster; Asa P. Lawrence, Pepperell; Thos. W. Gillis and Thos. Chase, Nashua; John Davis and Thos. Kinnicutt, Worcester; Nathaniel P. Smith, Groton; Jacob Fisher, Lancaster; Cyrus Holbrook, Sterling.

The subscriptions to the capital stock, which are represented as available, and mostly unconditional, amount to $696,000. The vote of a former meeting which required a subscription of $700,000, was reconsidered.

The Value of Railroads.—An exchange says that the city of Cincinnati will soon have two railroads stretching from that city to the lakes, besides her canal and many good macadamized roads. The improvements bring trade and business to that city—they bring customers to the mechanics, manufacturers and merchants of that city, and increase its wealth, population and prosperity. The consequence of these enterprizes is, that Cincinnati grows rapidly, and her citizens now say, that the population is not less than one hundred thousand.

We are informed, says the Boston Transcript, that the manufacture of railroad iron is becoming a very important branch of labor in our vicinity. At the foundry on the Milldam one day last week, 248 rails, or 42 tons, were turned out in 24 hours.

Peterboro' Railroad.—We have already stated that the directors of this corporation have adopted the route of the Squannacook valley, in preference to the line through the village of Groton, where, it is now supposed, the Nashua and Worcester road will pass. The Peterboro' road will leave the Fitchburg near the present Groton depot, and follow up the stream to Townsend Harbor; thence on a good line to the centre and west villages, a distance of twelve miles. The route is an exceedingly favorable one, easy to construct and of light grades, not exceeding 20 feet to the mile. It will ultimately be continued to the line of the state at Mason, and thence to Peterboro', under a charter from the New Hampshire legislature. The first assessment on the stock, due last Monday, we learn, has been paid up with unusual promptness by the stockholders on the line.

Railroad Meeting.—A large meeting was held at Lynnfield, on Monday afternoon, in favor of renewing the application to the legislature for a railroad from Salem to Lowell, through Danvers, Lynnfield, S. Reading, etc. A committee was chosen to circulate a petition to the legislature, and another committee to confer with the citizens of Lowell and other places in reference to the object.

The Iron Trade.—The last number of Willmer and Smith's European Times says:

"Sir John Guest, of the Dowlais iron works, has just completed a contract to supply two hundred thousand tons of iron rails at £10 per ton; the total value of which will be two millions sterling. The same iron three or four years ago, would have been sold at from £5 to £6 per ton."

Germany has now open to public traffic 37 lines of railroad extending a length of 469½ geographica miles. There are at work on those lines 600 locomotive engines, of which 267 are of English construction, 30 American, 46 Belgian, 16 French, and the remainder German.

Sullivan Raiload.—The Sullivan railroad corporation has been created by the New Hampshire legislature to construct a railroad from the Cheshire railroad at Bellows Falls to the Central railroad at Windsor, a distance of about 27 miles. Ex-Gov. Hubbard, [who presides on the line of the road at Charlestown,] is president of the corporation, and we understand that $80,000 of the stock has been subscribed in this town. This road will accommodate the business of Claremont, and other towns, on the New Hampshire side of the Connecticut river. Mr. Parker, the engineer, of this town, has just been over the line of the road and finds it highly favorable for the purpose, and we presume that the work will soon be put under contract, so that it may be completed in season to co-operate with the connecting roads. It is an important link in the great chain now in progress from Boston to lake Champlain and Canada, and when completed, cannot fail to be good stock. We understand that a good feeling prevails and it is to be hoped that the balance of stock now required will immediately be taken up.

Fitchburg and Vt. Central Railroads.—We understand that at a meeting of the directors of the Fitchburg railroad, yesterday forenoon, resolutions were passed, the object of which was to bring about measures of harmony between the several railroad lines extending from this vicinity to lake Champlain.—By these resolutions the Central railroad is at liberty to form a connection with the Northern railroad, and the Fitchburg company equal at liberty to assist and connect with the Rutland. The connection between the Fitchburg and Central lines, however, is still to be made, and must be regarded as a very important arrangement for the Cheshire and Fitchburg companies. The Central railroad will undoubtedly be benefitted by the new state of things.

Rutland Railroad.—The friends of the Rutland railroad, held a public meeting at the Tremont Temple, on Tuesday evening, at which C. W. Cartwright presided. The meeting was addressed in a very able manner, as we learn, by Judge Follett, Mr. Edwards, of Keene, and E. H. Derby, of Boston.—The objects and advantages of the proposed enterprize were well presented and enforced, and it is understood, with much effect, as several gentlemen pledged themselves to procure certain portions of the stock. About $250,000 are necessary to enable the directors to commence the work, and this sum it is supposed, the committee who have the matter in charge, will be able to obtain.

The Concord railroad corporation have determined not to build the Souhegan [Amherst,] road, by a majority of 1,726 shares.

Connecticut River Road Extended.—We learn from the Greenfield Gazette, that the Connecticut river railroad company will soon commence surveying a route for the extension of their road from this place into Vermont or New Hampshire, to unite with the Passumpsic and Connecticut rivers railroad. We learn that a union can be effected with that company by building 30 miles. It is the object of the Connecticut river railroad company in this state, to find the most feasible route, either directly north to the Vermont line, or to cross the river near Vernon and run up on the east side. They have a charter to the Vermont line.

RAILWAY IRON.—DAVIS, BROOKS & Co., No. 68 Broad Street, have now in port on Ship-board, 200 Tons of the best English heavy H Rails, 60 lbs. to the lineal yard, which they offer for sale on favorable terms, *also*, about 6 to 700 Tons now on the way, to arrive shortly, of the same description of Rail.

Nov. 16, 1846. 46tf

RAILROAD IRON.—100 TONS RAILroad Iron [Bridge pattern] for sale low to close a consignment by

JOHN F. MACKIE,
189 Water street.

November 7th, 1846. 1m45

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 23 Chambers street

A. & G. RALSTON & CO., NO. 4 South Front St., Philadelphia, Pa.

Have now on hand, for sale, Railroad Iron, viz:
180 tons 2½ x ¾ inch Flat Punched Rails, 20 ft. long.
25 " 2½ x ½ " Flange Iron Rails.
75 " 1 x ¼ " Flat Punched Bars for Drafts in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures. 1tf

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

RAILROAD IRON.—THE SUBSCRIBER'S New Rail Iron Mill at Phœnixville, Pa., is expected to be ready to go into operation by the 1st of September, and will be capable of turning out 30 to 40 tons or finished Rails per day. They are now prepared to receive orders to that extent, deliverable after the 1st of Octobet next, for heavy rails of any pattern now in use, equal in quality and finish to best imported.

PIG IRON.—They are also receiving weekly 150 to 200 tons of No. 1 Phœnix Foundry Iron, well adapted for light castings.

REEVES, BUCK & CO,
45 North Water St., Philadelphia,
or by their Agent, ROBT. NICHOLS,
28tf 79 Water St., New York

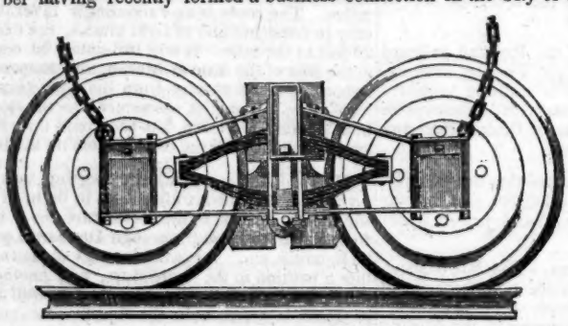
THE SUBSCRIBERS, AGENTS FOR the sale of
Codorus,
Glendon,
Spring Mil and
Valley,
} Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay orders for which are promptly supplied.

SAM'L. KIMBER, & CO.,
59 North Wharves,
Jan. 14, 1846. [1y4] *Philadelphia, Pa.*

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIber having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolser of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH,
1y19 Sup't Motive Power.

RICH & CO'S IMPROVED PATENT SALAMANDER SAFES.

Warranted free from dampness, as well as fire and thief proof.

Particular attention is invited to the following certificates, which speak for themselves:

TEST No. 10.

Certificate from Mr. Silas C. Field, of Vicksburgh, Mississippi.

On the morning of the 14th ult., the store owned and occupied by me in this city, was, with its contents, entirely consumed by fire. My stock of goods consisted of oil, rosin, lard, pork, sugar, molasses, liquors, and other articles of a combustible nature, in the midst of which was one of Rich's Improved Patent Salamander Safes, which I purchased last October of Mr. Isaac Bridge, New Orleans, and which contained my books and papers. This safe was red hot, and did not cool sufficiently to be opened until 16 hours after it was taken from the ruins. At the expiration of that time it was unlocked, when its contents proved to be entirely uninjured, and not even discolored. I deem this test sufficient to show that the high reputation enjoyed by Rich's Safes is well merited. S. C. FIELD.

Vicksburgh, Miss., March 9th, 1846.

Certificate from Judge Battaile, of Benton, Mississippi.

In October last I purchased one of Rich's Improved Salamander Safes, which was in the fire at the burning of my law office, and several adjoining buildings in this place, on the 17th of November last, at about half-past one o'clock A. M. of that day. The building was entirely consumed; and I take pleasure in stating that my papers in said safe were preserved without injury. A receipt book which was in said safe, had the glue drawn out of its leather back by the heat, and the back broken; but the leaves of the book, and the writing thereon, were entirely uninjured; and some of the writing which was of blue ink, was also left wholly uneffaced and not in the least faded. Said safe was by the fire heated perfectly red hot, and I do not hesitate to say, that said safe is a perfect security against fire. But the safe tumbled over during the fire, and being heated red hot, the outer sheeting of the door became pressed in, and the bolts of the lock bent, so that it could not be unlocked, and I had to have it broken open. JOHN BATTAILE.

Benton, Miss., December 27, 1845.

Still other Tests in the Great Fire of July 19, 1845.

The undersigned purchased of A. S. Martin, No. 138½ Water street, one of Rich's Improved Patent Salamander Safes, which was in our store, No. 54 Exchange place. The store was entirely consumed in the great conflagration on the morning of the 19th inst. The safe was taken from the ruins 52 hours after, and on opening it, the books and papers were found entirely uninjured by fire, and only slightly wet—the leather on some of the books was parched by the extreme heat. RICHARDS & CRONKHITE.

New York, 21st July, 1845.

One of Rich's Improved Salamander Safes, which I purchased on the 2d of June last of A. S. Marvin, 138½ Water street, agent for the manufacturer, was exposed to the most intense heat during the late dreadful conflagration. The store which I occupied, No. 46 Broad street, was entirely consumed; the safe fell from the 2d story, about 15 feet, into the cellar, and remained there 14 hours, and when found, I am told, and from its appearance afterwards, should judge that it had been heated to a red heat. On opening it, the books and papers were found not to have been touched by fire. I deem this ordeal sufficient to confirm fully the reputation that Rich's safe has already obtained for preserving its contents against all hazards. (Signed,)

WM. BLOODGOOD.

New York, 21st July, 1845.

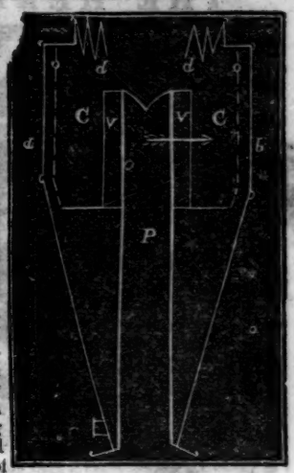
The above safes are finished in the neatest manner, and can be made to order at short notice, of any size and pattern, and fitted to contain plate, jewelry, etc. Prices from $50 to $500 each. For sale by

A. S. MARVIN, General Agent,
138½ Water st., N. Y.

Also by Isaac Bridge 76 Magazine street, New Orleans.

Also by Lewis M Hatch, 120 Meeting street Charleston, S. C. 16 tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.



TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
a45 Paterson, N. J., or 60 Wall street, N. York.

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York, will be punctually attended to.

HENRY BURDEN, *Agent.*

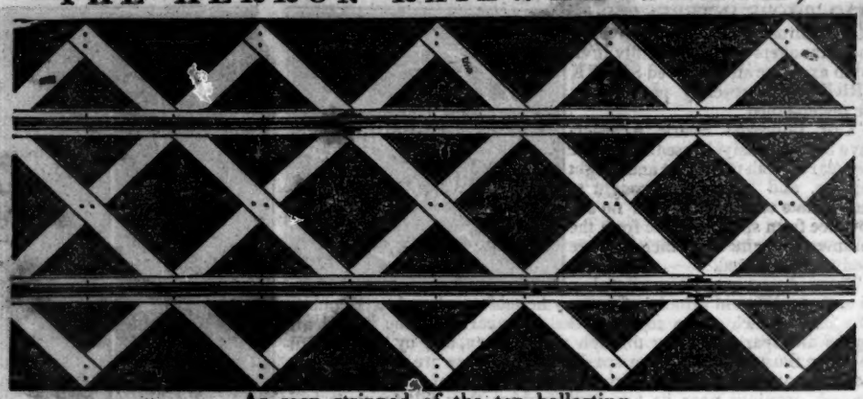
Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand. ja45

DAVENPORT & BRIDGES CONTINUE to Manufacture to Order, at their Works, in Cambridgeport, Mass., Passenger and Freight Cars of every description, and of the most improved pattern. They also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices. All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—coaches pass every fifteen minutes. 1y1

THE HERRON RAILWAY TRACK,



As seen stripped of the top ballasting

A GOLD MEDAL AWARDED THE INVENTOR BY THE AMERICAN INSTITUTE.

THE UNDERSIGNED RESPECTFULLY invites the attention of Engineers, and Railroad Companies, to some highly important improvements he has recently made in the Herron system of Railway structure. These improvements enable him to effect a very large reduction in the quantity of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of excellence in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trellis are 5 feet from centre to centre, while in the new construction they are only 2½ feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails, which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trellis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 11 feet wide, while the new construction takes but 8 feet; the timber being more concentrated under the Rails. A block of hard wood, about 2 feet long and 15 inches wide, is introduced into a square of the trellis for the purpose of giving an additional, and effectual support to the joints of the Rails, which rest upon it. Should these joint blocks become chafed and worn by the working, and imbedding of the chairs, as is now the case on all Railroads, they can be readily replaced without any derangement of the timbers less liable to wear.

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.

4,224 Timbers, 11 ft. long, 3 x 6 inches = 68,696 ft. b.m., at $10 =	$686 96
587 Oak joint blocks 2 ft. x 3 x 15 in. = 4,403 ft. b.m., at $13 =	57 24
13,000 Spikes = 2,250 lbs. at 4½ cts	101 25
Workmanship free of patent charge	600 00
Cost of one mile including the laying of the Rail	$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.
Civil Engineer and Patentee.
No. 277 South Tenth St., Philadelphia. 33tf

ENGLISH ATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information requi respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3½	8	3	8½	16	–	27	11-16	13½
14	3¼	6	11	7½	12	8	17	9-16	10½
15	2¾	5	2	6½	9	4	13½	1-2	7½
16	2¾	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion. 1y24

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.

No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
1y25 28 Platt street, New York.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N. Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works, Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
FRENCH & BAIRD, Philadelphia. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Co.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.

THE AMERICAN RAILROAD JOURNAL is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

RATES OF ADVERTISING.

One page per annum	$125 00
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One square " "	1 00
Professional notices per annum	5 00